

**In the Claims:**

1. (Previously presented) A method of data retrieval comprising the steps of:
  - providing a first memory circuit;
  - providing a stride prediction table (SPT) that is indexed with cache line miss information;
  - providing cache memory circuit;
  - executing instructions for accessing data within the first memory;
  - detecting a cache miss;
  - only allowing accesses to the SPT in response to the detection of a cache miss;and
  - only allowing updates to the SPT in response to the detection of a cache miss.
2. (Original) A method according to claim 1 wherein the cache memory circuit is a stream buffer.
3. (Original) A method according to claim 1 wherein the cache memory circuit is a random access cache memory.
4. (Original) A method according to claim 1 wherein the cache memory circuit and the SPT are within a same physical memory space.
5. (Original) A method according to claim 1 wherein the first memory is an external memory circuit separate from a processor executing the instructions.
6. (Original) A method according to claim 1 wherein the step of detecting a cache miss includes the steps of determining whether an instruction being executed by the processor is a memory access instruction, when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and when the data is other than present within the cache, detecting a cache miss.

7. (Original) A method according to claim 1 wherein the step of detecting a cache miss includes the steps of determining whether an instruction to be executed by the processor is a memory access instruction; when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and, when the data is other than present within the cache, detecting a cache miss, and accessing and updating the SPT only when the cache miss has occurred.

8. (Previously presented) A method according to claim 1, wherein the step of allowing access provides a step of filtering that prevents unnecessary access and updates to entries within the SPT.

9. (Original) A method according to claim 1, wherein the cache memory circuit is integral with the processor executing the instructions.

10. (Previously presented) A method according to claim 1, wherein the SPT comprises an address field, and where a size of the address field is less than an address space used to index the SPT.

11. (Previously presented) An apparatus comprising: a stride prediction table (SPT) that is indexed with cache line miss information; and, a filter circuit for use with the SPT, the filter circuit preventing both accesses and updates to the SPT unless a cache miss is detected.

12. (Original) An apparatus according to claim 11 comprising a memory circuit, the memory circuit for storing the SPT therein.

13. (Original) An apparatus according to claim 12 comprising a cache memory, the cache memory residing within the memory circuit.

14. (Original) An apparatus according to claim 13, wherein the memory circuit is a single ported memory circuit.

15. (Previously presented) An apparatus according to claim 13, wherein the memory circuit is a random access memory circuit.

16. (Previously presented) An apparatus according to claim 11, wherein the cache memory circuit is a stream buffer.

17. (Previously presented) A method of data retrieval comprising the steps of:  
    providing a first memory circuit;  
    providing a stride prediction table (SPT) that is indexed with cache line miss information;  
    providing cache memory circuit;  
    executing instructions for accessing data within the first memory;  
    detecting a cache miss; and  
    restricting accesses to the SPT in response to the detection of a cache miss.

18. (Previously presented) A method according to claim 17, wherein the step of restricting provides a step of filtering that prevents unnecessary access and updates to entries within the SPT.

19. (Previously presented) A method according to claim 17, wherein the cache memory circuit is integral with the processor executing the instructions.

20. (Previously presented) A method according to claim 17, wherein the SPT comprises an address field, and where a size of the address field is less than an address space used to index the SPT.

21. (Previously presented) A method of data retrieval, the method comprising:
- providing a first memory circuit;
  - providing a single-ported SRAM memory having a cache memory circuit and a stride prediction table (SPT) that is indexed with cache line miss information;
  - in a filter circuit,
    - receiving an application stream having a plurality of access instructions for accessing data in the first memory circuit,
    - for each of the plurality of access instructions that are load access instructions,
      - accessing the cache memory to determine whether data at a memory location of the load access instruction is present within the cache, and
      - when the data is other than present within the cache, detecting a cache miss for the load access instruction,
      - restricting accesses and updates to the SPT to only load memory access instructions for which a cache miss is detected;
      - in response to an update to the SPT indicative of one of said detected cache misses, executing instructions to access the SPT and predict a cache miss; and
      - in response to a predicted cache miss, control the loading of a stream cache based upon the memory location of the load access instruction.